

**DETAILED ACTION**

1. This Office Action incorporates an Examiner's Amendment and Reasons For Allowance.
2. The Applicant's response to the last Office Action, filed 2/24/2009 has been entered and made of record.
3. The application has pending claim(s) 1-3 and 5-7.
4. Applicant's arguments, see page 4 at "Applicants first note Luo was ..." through page 5 at "In order to clarify the differences between the ...", filed 2/24/2009 [the RCE used the previously submitted remarks of the After-Final filed 12/11/2008], with respect to claims 1-3 and 5-7 have been fully considered and are persuasive [the amendments overcome the prior art of record]. The 35 U.S.C. 103(a) rejections of claims 1-3 and 5-7 has been withdrawn.

**EXAMINER'S AMENDMENT**

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marc Rossi on March 9, 2009.

The application has been amended as follows:

For the claims on pages 2-3 of the Applicant's Request For Continued Examination (RCE) dated 2/24/2009 [the RCE used the previously submitted claims of the After-Final filed 12/11/2008]:

1. Please further amend claims 1 and 5 as shown by the attached pages below.

Claim 1: (Currently Amended) A method for scene classification of a digital image comprising the steps of:

- (a) extracting one or more pre-determined camera metadata tags from the digital image;
- (b) generating an estimate of image class of the digital image based on (1) the extracted camera metadata tags and not (2) image content features using a first data processing path, thereby providing a metadata-based estimate based only on the extracted camera metadata tags or generating a metadata null estimate;
- (c) generating, separately from the metadata-based estimate, another estimate of image class of the digital image based on (1) image content features and not (2) the extracted camera metadata tags using a second data processing path separate from the first data processing path, thereby providing an image content-based

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estimate based only the image content features or generating a content-based null estimate; and

(d) producing a final integrated estimate of image class of the digital image using a Bayesian network based on a combination of 1) the metadata-based estimate and the image content-based estimate, 2) the metadata-based estimate and the image-based null estimate, or 3) the image content-based estimate and the metadata null estimate, wherein the final integrated estimate of image class in step (d) is obtained by using a Bayesian network;

wherein steps (b), (c) and (d) are each implemented using a computing device.

Claim 5: (Currently Amended) A computer-readable medium storing a computer program for causing a computer to implement ~~the method as claimed in claim 1. a method for scene classification of a digital image comprising the steps of:~~

(a) extracting one or more pre-determined camera metadata tags from the digital image;

(b) generating an estimate of image class of the digital image based on (1) the extracted camera metadata tags and not (2) image content features using a first data processing path, thereby providing a metadata-based estimate based only on the extracted camera metadata tags or generating a metadata null estimate;

(c) generating, separately from the metadata-based estimate, another estimate of image class of the digital image based on (1) image content features and not (2) the extracted camera metadata tags using a second data processing path separate from the first data processing path, thereby providing an image content-based estimate based only the image content features or generating a content-based null estimate; and

(d) producing a final integrated estimate of image class of the digital image using a Bayesian network based on a combination of 1) the metadata-based estimate and the image content-based estimate, 2) the metadata-based estimate and the image-based null estimate, or 3) the image content-based estimate and the metadata null estimate.

## **REASONS FOR ALLOWANCE**

6. The following is an examiner's statement of reasons for allowance:

Independent claims 1 and 5 are allowable over the prior art of record. Claims 2-3 and 6-7 depend from claim 1 respectively, therefore, are allowed.

Independent claims 1 and 5 respectively recite the limitations of: (b) generating an estimate of image class of the digital image based on (1) the extracted camera metadata tags and not (2) image content features using a first data processing path, thereby providing a metadata-based estimate based only on the extracted camera metadata tags or generating a metadata null estimate; (c) generating, separately from the metadata-based estimate, another estimate of image class of the digital image based on (1) image content features and not (2) the extracted camera metadata tags using a second data processing path separate from the first data processing path, thereby providing an image content-based estimate based only the image content features or generating a content-based null estimate; and (d) producing a final integrated estimate of image class of the digital image using a Bayesian network based on a combination of 1) the metadata-based estimate and the image content-based estimate, 2) the metadata-based estimate and the image-based null estimate, or 3) the image content-based estimate and the metadata null estimate.

The combination of these features as cited in the claims in combination with the other limitations of the claims, are neither disclosed nor suggested by the prior art of record.

The closest reference Treter et al (US 2002/0140843 A1) discloses applying a classifier to a specific subject image by content-based analysis, meta-data analysis, or a combination of the two. However, Treter does not teach the limitations cited above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/  
Supervisory Patent Examiner, Art Unit 2624  
Bernard Krasnic  
March 9, 2009